

**THE NATIVE TELEHEALTH OUTREACH AND TECHNICAL
ASSISTANCE PROGRAM: A COMMUNITY-BASED APPROACH TO
THE DEVELOPMENT OF MULTIMEDIA-FOCUSED HEALTH CARE
INFORMATION**

Rhonda Wiegman Dick, M.A., C.N.E., Spero M. Manson, Ph.D.,
Amy L. Hansen, B.A., Annie Huggins, M.A. , and Lori Trullinger

Abstract: The development and dissemination of culturally relevant health care information has traditionally taken a “top-down” approach. Governmental funding agencies and research institutions have too often dictated the importance and focus of health-related research and information dissemination. In addition, the digital divide has affected rural communities in such a way that their members often do not possess the knowledge or experience necessary to use technological resources. And, even when they do, their skills may be limited, adequate only for implementing applications and programs designed by others who live and work outside of these communities. This need became the driving force in the creation of the Native Telehealth Outreach and Technical Assistance Program. The goal of the program is to equip Native community members, at both the lay and professional levels, with the means to use technology to address tribal health care needs. The transfer of relevant technical knowledge and skills enables participants to develop projects which enhance the community-wide dissemination of health care information. Nine community health advocates and professionals participated in the initial cohort. Eight of the participants successfully developed multimedia-based projects including Web sites, interactive CD-ROMs, and video focusing on a variety of health concerns. At the conclusion of the 18-month program period, projects were disseminated throughout rural communities. The NTOTAP staff continues to evaluate the use of these projects and their benefits within the rural communities.

More than most others in the United States, the American Indian population is distributed widely across the lower 48 states, with a significant number residing in rural, isolated, and impoverished areas (U.S. Census Bureau, 2000). The scattered nature of many of these communities increases the likelihood that American Indian residents lack access to timely and relevant health education materials. The power that health information can instill is a key component to successful management of personal health issues, with both published and technology-based educational materials contributing in positive ways to prevention, early identification, and treatment in health care (Detmer, 2003).

Telecommunication technology promises to bridge the large gaps in geography and culture that impede tribal communities' access to necessary health care, especially as the "digital divide" narrows and even broadband and wireless technologies become available in rural America (Luger, Stewart, & Traxler, 2002). Yet local community members often do not possess the technical knowledge or experience to effectively use such resources, or they have limited skills that are adequate only for implementing applications and programs designed by others who live and work outside of these communities. Hence, Native people often have yet to fully use their creative energies to adapt these evolving technologies to meet tribal needs and priorities. The goal of this project was to equip Native community members and local health professionals with the means to do so.

Research organizations such as the American Indian and Alaska Native Programs (AIANP) at the University of Colorado at Denver and Health Sciences Center have implemented many projects to address health issues. Such projects, however, often reflect Federal funding priorities rather than local needs. As a result, local priorities are undervalued, and the projects' abilities to address local health care concerns are dramatically reduced. As explained next, the AIANP recently sought to remedy this relative lack of focus on local concerns and lack of capacity to address such issues by providing community members with the technical training to develop multimedia-based projects of local relevance.

Native TeleHealth Outreach and Technical Assistance Program

The Native TeleHealth Outreach and Technical Assistance Program (NTOTAP) resides within the AIANP's Center for Native American TeleHealth and TeleEducation (CNATT) and focuses on the transfer of technical knowledge to community health advocates and professionals.

This program promotes the development of multimedia-based products that address local health care priorities. The NTOTAP was designed to accomplish three goals: a) increase community members' access to health care resources, b) provide the technical training to develop health care resources, and c) promote capacity building and sustainability at the local level. Here, we describe the process, structure, and outcomes of the NTOTAP during its initial 18 months of implementation.

Given the rapid evolution of technologies applicable to the health sciences and the uneven distribution of services in American Indian communities, many providers, planners, and administrators working with this special population are unaware of the potential of these new technologies or lack the skills needed to use them. The NTOTAP offers two instructional tracks designed to increase local communities' access and ability to use the resources available through distance health and education. The first track focuses on increasing the number and competence of local community health advocates. It focuses specifically on members of tribal communities who have a paraprofessional-level of interest in technology and possible applications for outreach, health education, and prevention activities. Here, we emphasize the general principles behind the technologies, provide experience with the operational aspects of both independent and integrated applications, and share examples of how other communities have employed these technologies to address local health concerns.

The program's second instructional track focuses on increasing the number and competence of health professionals from American Indian communities using technological resources. This program enables community health professionals to conceptualize, design, implement, and evaluate applications of their own invention. Projects developed by the first group of participants included a video providing descriptive information on Hepatitis C, an interactive CD-ROM for elementary school students focusing on the effects of alcohol and other drugs on the body, and a Web site and brochure campaign sharing a variety of birth control methods available to a particular community.

Planning and Structure

The initial planning year began in June 2003, at which time a core program team composed of Denver-based AIANP staff was created. The team first focused on the development of the participant application process and related materials (described in more detail below). The team agreed that a comprehensive application which gathered information on

professional experience and education would be necessary. In addition, applicants' writing skills and health topic experiences were ascertained through a required 500-word essay. Once these materials were in place, the team shifted its energies to the development of the training curriculum that was scheduled for implementation in January 2004.

Application Process

Application materials were developed in two phases. First, the team created a brochure that included general information about the CNATT and NTOTAP. CNATT's four components – distance education, research, clinical care, and training – were briefly described; the majority of the brochure specifically focused on the training component of NTOTAP, with detailed information provided regarding the structure and expectations of the program. The brochure also included a perforated form that the reader could complete, remove, and mail to request more information and an official application packet.

AIANP staff distributed brochures and logo-imprinted ballpoint pens during the fall 2004 student registration process at various tribal colleges and universities in the western U.S. In addition, staff hand-delivered application packets and brochures to local community health organizations. This information dissemination process was highly successful and encountered few, if any, issues. Students welcomed receiving the pens, which helped them complete the school registration process. In a few cases, applications received were directly related to the student finding the pen post-registration and viewing the Web site for more information.

In the early fall of 2004, general meetings were scheduled at four locations near the communities in which the brochures were distributed. These meetings promoted the program to interested participants. Directors of the AIANP field offices in these communities, accompanied by several Denver-based staff, led the meetings and reviewed the NTOTAP program. Sufficient time was reserved at the end of each meeting for a question-and-answer session.

By the application deadline (October 1, 2004), 12 individuals had completed application packets. Table 1 describes the backgrounds and interests of the applicants. The NTOTAP team met to discuss and prioritize the applicants for follow up and possible interviews. Applicants identified as having a clear, identified interest and relevant community experience focusing on a local health priority, as well as basic computing skills were interviewed by all Denver-based NTOTAP

staff. The purpose of the interviews was to gain a better knowledge of the individuals' experiences in their areas of interest, assess their computing skills, query their ideas on how their projects could affect local communities, and assess their competence to carry out a project over an extended period of time working with a mentor located at a distance. After NTOTAP staff discussed these interviews in a subsequent team meeting, the candidates were notified of their acceptance status by the end of October. Ultimately, nine recruits were identified for the initial cohort – three community health advocates and six community health professionals, representing two geographic regions (South Dakota and Washington state).

Table 1
Range of Backgrounds and Interests for Initial Cohort Applicants

Applicant	Profession	Education	Health Interest
1 (Female)	Tribal University Bookstore Billing Clerk	Associate's Degree	Teen Pregnancy Prevention
2 (Female)	HIV Counselor and Educator	High School Diploma	HIV
3 (Male)	Special Project Liaison - Seattle Indian Health Board	High School Diploma	Physical Fitness for Elementary-age students
4 (Female)	Clinic Registered Nurse	Bachelor's Degree (Nursing)	Hepatitis C
5 (Female)	Registered Nurse	Bachelor's Degree (Nursing)	Drug Use Prevention - Elementary-age students
6 (Female)	Elementary School Teacher	Bachelor's Degree (Education)	Behavior Management - Elementary-age students
7 (Female)	Research Coordinator	Bachelor's Degree	Healthy Lifestyles
8 (Female)	CNM/CFNP	Master's Degree	Stress Reduction, Exercise, Nutrition
9 (Female)	Program Manager	Master's Degree	Informatics
10 (Male)	Community Health Representative	Associate's Degree	Diabetes
11 (Female)	Teacher	Associate's Degree	Alcohol Abuse
12 (Female)	Unemployed	High School Diploma	Healthy Lifestyle - Nutrition focused

Structure of Program

The program goal for each participant was to develop a multimedia-based project focusing on a local health priority. NTOTAP supported this goal by providing fiscal resources, mentorship, technological resources, and technical training.

Fiscal Resources

Financial support was available to each participant and included: a) regular, monthly compensation; b) resources to cover all travel-related expenses for Denver-based trainings; and c) a generous project development and dissemination budget. Examples of items purchased with project funds included hardware, software, subscriptions, project participation incentives, travel related to community evaluation and project dissemination, and consultant payments for work related to project completion but outside the realm of the NTOTAP program expertise (e.g., artwork created for CD-ROM cover).

Mentorship

Operational and technical mentors were assigned to each participant. The operational mentors' role was to oversee the project management and budgetary aspects for each participant. In addition, the operational mentors provided guidance, advice, and answers to non-technical questions throughout the program. Technical mentors, in contrast, had specific experience with different technologies and provided all instruction during training and project development. In addition, technical mentors worked closely with participants, monitoring project status, answering technical questions, and providing guidance on all topics related to project development (including those that were initially outside the technical expertise of the NTOTAP staff).

Technology Resources

In August 2002, the AIANP moved into a new home – the Nighthorse Campbell Native Health Building (NCNHB) – on the Fitzsimons Campus of the University of Colorado at Denver and Health Sciences Center. The NCNHB, a \$13.3 million, 48,000-square-foot facility, brings the most recent advances in Internet-based store-and-forward technology – as well as real-time, interactive videoconferencing methods – to bear on AIANP program objectives. In addition to office and conference space, the NCNHB includes state-of-the-art clinical, educational, and media production studios to support telehealth/tele-education activities, which are coordinated through the CNATT. The NCNHB houses a 1,863-square-foot Multimedia Production Suite on the second floor, including a multimedia production lab, authoring/training room, two video editing rooms, a sound recording studio, and a video recording

studio. It is central to all multimedia development, audiovisual support, media production/transmission, computer support, World Wide Web technical assistance, CD-ROM distribution, and digital archiving activities. The suite supports a variety of activities: a) digital video editing, which includes adding titles, voice-overs, and still images; b) scanning of slides, flat art, and x-rays, as well as manipulation/enhancement of these images; c) PowerPoint production, which includes adding music, pictures, and videos to PowerPoint files; d) creating slides of x-rays, scans, books, flat art, and photocopies; e) creating video, audio, and graphic files for Internet, CD-ROM, or DVD applications; f) DVD production; g) QuickTime VR 360-degree photography; h) assistance with presentations, publications, grant proposals, community outreach projects, and research documentation; i) Web site development; j) computer-based training, including interactive courses and CD-ROM workshops to facilitate distance learning opportunities; and k) data archiving.

In addition to use of this state-of-the-art facility, each NTOTAP participant was loaned the following equipment for the duration of the program: a) Windows-based Dell Latitude D500 1.3Ghz laptop, b) Canon GL-2 MiniDV camcorder with accessories, c) Marantz PMD-222 Professional Mono Portable Cassette Recorder, d) Sony MVC-FD200 digital still camera and accessories, and e) HP Deskjet 5150 printer.

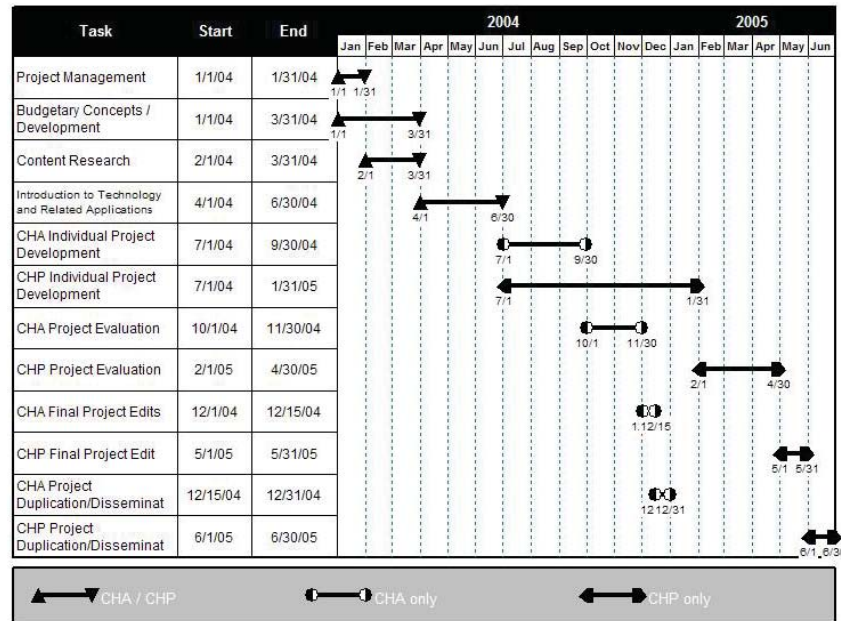
Technical Training

The development of the training curriculum was completed during the planning year. An integrated approach was used during the first four months of the program – all nine participants attended training in Denver at the same time. This approach allowed the NTOTAP staff to cover general concepts that were applicable to all participants regardless of the technology used for their projects. This early stage was followed by a series of trainings that brought subsets of participants to Denver to focus on different technologies and, ultimately, each individual project. Figure 1 represents the program timeline developed to provide sufficient time for project development, a thorough project evaluation, and revisions based on evaluation feedback, duplication, and dissemination by the end of the program in June 2005.

The initial training began in January 2004 and introduced the community health advocates and professionals to project management ideas and budgetary concepts. In addition, during this meeting the aforementioned laptop computers were assigned to all individuals. These computers facilitated project completion and e-mail communication

with NTOTAP staff (which participants accessed through local community Internet service providers). Introductory sessions with each participant's operational mentor rounded out the first month's training.

Figure 1
Project Development Timeline for CHAs and CHPs



During these initial trainings, each participant spent time in discussions with NTOTAP staff and local community stakeholders regarding the appropriateness of their chosen health topic. One Community Health Professional (CHP) came to the program intending to focus on domestic violence. However, as her research and discussions with the local community stakeholder progressed over the first few months of the program, this CHP determined that information focused on Hepatitis C was in greater demand in her community. Upon closer review, the CHP was able to identify a lack of Hepatitis C-specific content within her community and she altered the focus of her project accordingly.

All participants returned to Denver monthly through March and completed training in the identification of health-related materials for content development, an introduction to still photography and digital cameras, and a beginner's look at the Macromedia Fireworks and Inspiration applications. NTOTAP staff determined that still photographs would most likely be used in each project regardless of technology; thus, at this training, a digital still camera was checked out to each participant

for use throughout the program. The second training concluded with work time to develop project storyboards using the Inspiration application. (Storyboards are a sequential series of illustrations, stills, rough sketches, and/or captions – sometimes resembling a comic or cartoon strip – of events that outline the various shots or provide a synopsis for a proposed story.) Inspiration is a software application in which the user can visually map each segment of an entire project with its action, characters, and script. Participants were also assigned homework that was due by the beginning of the following training. The goal of the homework was to review the concepts introduced at the training, encourage participant interaction, and promote further investigation of topics presented at the training. WebCT, a distance education platform, provided the participants with an asynchronous method to complete homework, discuss training topics, and share relevant information throughout the program.

During the third month of training, the participants worked closely with project staff to solidify the technology they intended to use for their project. As their ideas became more concrete, they were assigned to one of two NTOTAP staff for technical mentorship. Both technical mentors had significant experience in one or more technologies, including Web development, video production, and interactive CD-ROM development. The overall group training during the third month focused on the ability to share information with communities and stakeholders using Microsoft PowerPoint and Publisher software.

Beginning in April 2004, the participants were scheduled for training based on their project technology. Three separate two-day training sessions were scheduled throughout the month focusing on Web design, video production, or interactive CD-ROM development. During these trainings, participants met individually with their technical and operational mentors to ensure that all aspects of their projects were on target (e.g., content, budget, storyboard). Training continued in this manner through June 2004 in order to provide a solid foundation for the development of projects.

Finally, in July 2004, individual training sessions were scheduled; these continued throughout the remainder of the program. The focus of this work time was specific to each project and allowed the technical mentors to assist with the continued development of new content and the editing of existing material, as well as to provide feedback and instruction. Table 2 provides a list of tasks that were completed during these training sessions specific to each technology. These individual

sessions allowed the technical mentors to provide training on different aspects of the technology that focused specifically on the needs of the individual project.

Table 2
Tasks Related to Project Development

Interactive CD-ROM	Content development
	Determine architecture – flow of activities, navigation
	Create color schemes, fonts, buttons, logo
	Software training – Macromedia's Fireworks, Macromedia's Authorware
	Develop main user interface – table of contents
	Develop subpage formats
Video	Development of interactive activities including puzzles, games, word searches, etc.
	Story Development – script writing, interview process, question development
	Camera Overview
	Camera and Shooting Techniques
	Equipment Setup
	Media Management
Web site	Software Training – Macromedia's Fireworks and Final Cut Pro
	Content development
	Determine architecture – flow of activities, navigation
	Create color schemes, fonts, buttons, logo
	Software training – Macromedia's Fireworks, Macromedia's Dreamweaver
	Develop main user interface – table of contents
	Develop subpage formats
	Development of interactive activities including puzzles, games, word searches, etc.

The outcome of these meetings was a draft of the project ready for internal review and the community evaluation phase of the program.

Project Evaluation

Draft projects were reviewed and evaluated using three different methods. NTOTAP staff and an outside medical consultant provided individual reviews for each project. These reviews were detailed and thorough; each included feedback regarding aesthetics, content, grammar, and technical problems. Appendix 1 shares an example of both the internal review and medical consultant review of the Hepatitis C video project. The technical mentor for each project gathered all feedback and, after discussions with the project team, identified which revisions were required and which were optional/recommended, allowing the CHA to determine whether the optional/recommended changes would contribute to the project. Participants made revisions to their projects based on this feedback. At the completion of this step, participants developed evaluation materials to gather similar feedback at a community-wide level. This four- to six-week community project

evaluation phase included the use of focus groups, community meetings, one-on-one interviews, and direct observation. No two methods of gathering this information were identical for any of the projects. Information gathered was more general in nature and focused on the cultural relevance of the project and how successfully the developer was able to share the content (see Appendix 2 for evaluation example). At the conclusion of the community evaluation phase, each participant returned to Denver to complete final revisions based on the feedback. In general, the majority of revisions covered aspects such as terminology clarification and inclusion of more resources that could be used for further research.

Project Duplication and Dissemination Plans

The final phase of development consisted of media duplication, production of final marketing materials, and creation of community-wide dissemination plans. Video-based projects were duplicated in either the VHS and DVD formats, depending on the authors' preferences and the perceived availability of technology within their communities. Based upon the number of copies needed, duplication was either done in-house using a CD-ROM label-making kit or was outsourced to a local media duplication company. The process to duplicate CD-ROMs was identical to that used for the video-based projects.

Dissemination efforts varied among the participants. As an example, 25 copies of the Hepatitis C video described in this manuscript have so far been distributed to local community organizations for staff and patient education. Recipients of the video include Public Health Nursing, the Indian Health Service Hepatitis Program, the Hepatitis C Screening Study, the General Health Clinic, the local police department, and the juvenile detention center. In addition, the participant planned to distribute the video at local school health fairs in the winter of 2006.

Results / Lessons Learned

Eight of the nine participants successfully completed projects in one of three technology areas – Web site, interactive CD-ROM, or video. (The unsuccessful participant was terminated mid-way through the program due to lack of performance.) Projects included the following:

- Interactive CD-ROM for elementary school students focusing on the effects of alcohol and other drugs on the body;
- Video providing preventive and descriptive information on Hepatitis C;

- Web site and brochure campaign focused on a variety of birth control methods available in the local community;
- Interactive CD-ROM sharing Native insights and information on diabetes;
- Video presentation on stress management packaged with a journal, pedometer, and nutritionally and culturally appropriate cookbook;
- Information and tracking Web site for students participating in an after-school Native running program;
- Video describing interventions for teachers dealing with student behavior management in the classroom setting;
- Interactive Web site focusing on an epidemiological data collection and its importance in determining the effectiveness of health delivery services and medical interventions for American Indians in an urban setting.

Although the majority of the participants successfully completed a multimedia-based project using technologies and information new to them, as with any first-time program there were lessons learned and areas identified for change. These issues are outlined below, and changes are being implemented for future cohorts.

- Require all participants to sign a copy of the NTOTAP Frequently Asked Questions (FAQ) list verifying that the list was read completely. The FAQ provided information related to travel, monetary compensation, supervision, evaluation, project copyright, and meeting attendance. This list was continuously revised throughout the program as issues arose.
- Identify back-up trainers for all internal and outsourced trainings. At the initial program meeting, an NTOTAP staff member became very ill and was unable to conduct her training. Fortunately, the project director had reviewed the training protocol and was able to fill the vacancy, but less formally than the team would have liked.
- Increase the timeframe of the program for community health advocates to 18 months. The 12-month instructional track for the community health advocates was inadequate to develop the caliber of project expected in this program. Because the first cohort had little to no experience with the technologies shared in the program, bringing them to a point where they could work with only a moderate amount of technical support was nearly impossible. The additional time needed to bring participants up to speed in their technologies cut into the program evaluation phase, leaving time for only a moderate number of revisions.

- Increase the number of outsourced trainings to allow internal NTOTAP staff time to provide individual assistance to each participant between trainings, rather than using this time to develop future training material.
- Conduct participant performance evaluations every three months and provide a one-month grace period within which to resolve any issues. At the end of the grace period, if performance issues remain, the person will be terminated from the program. Without a formal evaluation and termination timeline in place, a participant could be given many opportunities to rectify poor performance all while being paid a consistent monthly compensation.
- Require that a local community stakeholder sign an agreement to participate in a mentorship role, as well as to review project development on a regular basis. Without a formal agreement in place, NTOTAP staff is unable to verify that the project content and medium are appropriate and will meet the needs of the community, or that project dissemination will be supported.
- Purchase Mac-based laptops so that participants developing videos can work on their projects at their convenience either at home or during the training time in Denver. Without this equipment, participants developing videos can only work on their projects during the scheduled trainings in Denver.
- Pay compensation at the completion of identified project development milestones, rather than on a monthly basis. This structure – as opposed to consistent monthly compensation – would greatly improve compliance with homework and project deadlines, .
- Allow for each technical mentor to make at least one trip to each participant's community (most important for those producing videos). Participants developing videos frequently voiced the need for assistance when they were shooting their video footage. In reality, it takes multiple individuals to address the many elements of video production, including the camera, lighting, sound and aspects of the interview process.
- Include sufficient time to evaluate the effects of the completed projects on the participants' communities. Due to the program's time constraints, NTOTAP staff was not able to fully evaluate the impact of the projects – a major factor in determining the program's overall success. For the second cohort, sufficient evaluation time has been built into the project, and methods are being developed so that the effects of the projects can be assessed and compared.

Summary

The Native Telehealth Outreach and Technical Assistance Program is a unique opportunity for local Native community members to use their creative energies in the development of appropriate and culturally relevant projects to disseminate health care information. The majority of participants from the initial year's cohort successfully completed multimedia-based projects focusing on a wide range of health topics.

Ultimately, the acquisition of this relevant and culturally appropriate health information will benefit local communities and it is our hope that the first cohort of community health advocates and professionals will use their newly acquired technical skills to develop additional health-related projects, as well as share their knowledge with other community members.

Rhonda Wiegman Dick, M.A., C.N.E.
American Indian and Alaska Native Programs
University of Colorado at Denver and Health Sciences Center
Mail Stop F800, PO Box 6508
Aurora, CO 80045
Phone: (303) 724-1448
E-mail: rhonda.dick@uchsc.edu

References

- Detmer, D.E. (2003). Building the national health information infrastructure for personal health, health care services, public health, and research. *BMC Medical Informatics and Decision Making*, 3(1). Retrieved November 22, 2005, from <http://www.biomedcentral.com/1472-6947/3/1>
- Luger, M.I., Stewart, L.S., & Traxler, J. (2002). *Identifying technology infrastructure needs in America's distressed communities: A focus on information and communications technology*. Washington, DC: Economic Development Administration, United States Department of Commerce. Retrieved November 8, 2005 from <http://www.osec.doc.gov/>
- U.S. Census Bureau (2000). *American Indian and Alaska Native Summary File (AIANSF)*. Retrieved May 5, 2005 from http://factfinder.census.gov/servlet/DTable?_bm=y&-context=dt&-reg=DEC_2000_SFAIAN_PCT002:01A&-ds_name=DEC_2000_SFAIAN&-CONTEXT=dt&-mt_name=DEC_2000_SFAIAN_PCT002&-tree_id=406&-redoLog=false&-geo_id=01000US&-search_results=01000US&-format=&-lang=en

Authors' Note

This program was supported in part by grants P60 MD000507 (SM Manson) from the National Center for Minority Health and Health Disparities, 1P30AG/NE15292 (SM Manson) from the National Institute of Aging, P01 HS10854 (SM Manson) from the Agency for Healthcare Research and Quality, and MH43175 (SM Manson) from the National Institute of Mental Health.

Appendix 1

Internal Review of a Video Educating Viewers about Hepatitis C

General Comments

I am totally impressed! What a wonderful job this CHA has done!

Considering this was this CHA's first video production, I think the video looks good, over all. It's somewhat informative. I think it may need more scare tactics, maybe talk to some folks who would be willing to share their personal experiences living with or knowing someone with Hep C. And maybe edit some of the Dr. Interview – it lost me a couple of times.

Looked really good and was easy to understand.

I like the Doctor. I thought he was very warm and well-spoken. The images really helped to punch up the information.

The information was very helpful...almost to a fault. I found it to be oddly reassuring. I didn't get much of a sense of alarm regarding the disease. I wonder if this was intentional or if more "drama" might make Hep C like a bigger issue.

Required Changes

1. "There is no vaccine..." text is hard to read toward the end because the text is blue on a black background.
2. "Can you get Hep C from a blood transfusion" is the text, however it is READ as "Can I get Hep C..."
3. "Can I get...From Tattoos..." - need to be consistent in capitalization across all text messages.
4. Is there another tattoo and piercing picture that can be used the second time these images are shown?
5. Where did This CHA get the reference to 4 million Americans? Can she include it in her credits at the end of the video?
6. Can This CHA contact Dr. Milliard and clarify what he means by a 100% cure rate? If she does get this information, she could include it on a separate slide using her own voice.
7. Can This CHA contact Dr. Milliard to get his references regarding Vietnam Veterans and excessive alcohol use?
8. I guess I would like to know a little more about why it is of concern to the population you are addressing. Are there stats that say it is on the rise? Is it difficult for Native Americans to get appropriate treatment and it is, therefore, more deadly?
9. Aside from getting additional tape from Dr. Milliard (which I would like This CHA to pursue – at least audio information) I'm not sure how to include other categories of people who need to be screened such as hemodialysis patients and children who are born to mothers infected with Hep C. I believe, and this could be argued, that the other categories are covered in some fashion by the video
10. Photos.com credits should read as requested by the site license: "Certain images and/or photos on this page are the copyrighted property of JupiterImages and are being used with permission under license. These images and/or photos may not be copied or downloaded without permission from JupiterImages"

Recommended Changes

1. I like this project a lot. This CHA did a great job. My only qualm is that I think it might benefit from a few more alarming stats or some drama to heighten its appeal and importance.
2. Also, was the gray space on the photos of the nail clippers and toothbrush intentional? I didn't mind it, but I am wondering.
3. Does This CHA want more information about herself at the end? I want to make sure people know who she is because she had done such a wonderful job!

Medical Consultant Review

I. According to a 2005 report by Kelleher and Afdahl, there are approximately 2.7 million Americans with active Hepatitis C. (Kelleher TB, Afdahl N. Maintenance therapy for chronic hepatitis C. Curr Gastroenterol Rep. 2005 Feb;7(1):50-3.)

II. According to Kelleher and Afdahl, current optimal therapy (with pegylated interferon alfa (PEG-IFN) and ribavirin) results in sustained virologic response rates of just over 50%. (Kelleher TB, Afdahl N. Maintenance therapy for chronic hepatitis C. Curr Gastroenterol Rep. 2005 Feb;7(1):50-3) You may want to clarify with Dr. Mailliard what he means by a 100% cure rate.

Appendix 1, continued

III. The US Preventive Services Taskforce (USPSTF) was convened by the Public Health Service to rigorously evaluate clinical research in order to assess the merits of preventive measures, including screening tests, counseling, immunizations, and preventive medications. The USPSTF is an independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness and develops recommendations for clinical preventive services.

According to USPSTF March, 2004, Screening for Hepatitis C Recommendations:

- The USPSTF recommends against routine screening for hepatitis C virus (HCV) infection in asymptomatic adults who are not at increased risk (general population) for infection.
- The USPSTF found insufficient evidence to recommend for or against routine screening for HCV infection in adults at high risk for infection.

However, the Centers for Disease Control and Prevention (CDC) and National Institutes of Health (NIH) both recommend screening for users of injection drugs, hemodialysis patients, and recipients of transfusions or organs (CDC recommendations cover the years before 1992, and NIH recommendations cover the years before 1990). In addition, the NIH panel recommends screening for individuals with multiple sexual partners, spouses or household contacts of HCV-infected patients, and those who share instruments for intranasal cocaine use. The CDC recommends screening for children born to mothers infected with HCV, those who received clotting factor concentrates before 1987, those with occupational exposure to HCV-positive blood, and patients with persistently abnormal alanine aminotransferase levels. Nowhere in the literature could I find where Vietnam Veterans and individuals who abuse alcohol should be screened. Based on these findings you may consider the following categories of people who should be screened:

- Injection drug users
- Hemodialysis patients
- Recipients of transfusions or organs before 1990
- Cocaine users who share instruments for intranasal cocaine use
- Children born to mothers infected with hepatitis C

The National Hepatitis Screening Survey found that intravenous drug use was the strongest risk factor for HCV infection (adjusted odds ratio [OR], 23), followed by hemodialysis, sex with an intravenous drug user, a history of blood transfusion, and male gender.⁶ In cross-sectional studies of intravenous drug users, 65 percent of those who reported injecting drugs for 1 year or less and 50 percent to 90 percent of all intravenous drug users are infected with HCV.^{1,7}

Below, find NIH and CDC guidelines on Hepatitis C screening.

<ftp://ftp.cdc.gov/pub/Publications/mmwr/rr/rr4719.pdf>

http://consensus.nih.gov/cons/116/091202116cdc_statement.htm

References

1. Kaur S, Rybicki L, Bacon BR, et al. Performance characteristics and results of a large-scale screening program for viral hepatitis and risk factors associated with exposure to viral hepatitis B and C: results of the National Hepatitis Screening Survey. National Hepatitis Surveillance Group. *Hepatology* 1996;24:(5):979-86.
2. Garfein RS, Vlahov D, Galai N, et al. Viral infection in short-term injection drug users: the prevalence of the hepatitis C, hepatitis B, human immunodeficiency, and human t-lymphotropic viruses. *Am J Public Health* 1996;86:655-61.
3. Alter MJ. Epidemiology of hepatitis C. *Hepatology* 1997;26:(3 Suppl 1):62S-5S.
4. Patrick DM, Tyndall MW, Cornelisse PG, et al. Incidence of hepatitis C virus infection among injection drug users during an outbreak of HIV infection. *Can Med Assoc J* 2001;165:(7):889-95.
5. Villano SA, Vlahov D, Nelson KE, et al. Incidence and risk factors for hepatitis C among injection drug users in Baltimore, Maryland. *J Clin Microbiol* 1997;35:(12):3274-7.
6. Bell J, Batey RG, Farrell GC, et al. Hepatitis C virus in intravenous drug users. *Med J Aust* 1990;153:(5):274-6.
7. Alter MJ, Hadler SC, Judson FN, et al. Risk factors for acute non-A, non-B hepatitis in the United States and association with hepatitis C virus infection. *JAMA* 1990;264:(17):2231-5.

Appendix 2
NTOTAP Project Evaluation – Video

1. Was watching this video an enjoyable experience? Was the information provided understandable?
 2. Did you find the information in this video to be helpful? Was it well-presented, easy to understand, and up-to-date? Provide examples.
 3. Was the information presented in a way that was appealing, interesting, or compelling? Please explain.
 4. Do you need more information to fully understand the subject? If so, did you learn where to get more information from this video?
 5. Please provide any feedback that might be helpful to this project's author that might improve the project.
-